



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20530  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,915	04/27/2001	Shigenobu Nakamura	P 277127 56228-US-Su/st	8397

909 7590 08/29/2002  
PILLSBURY WINTHROP, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/842,915

Applicant(s)

NAKAMURA, SHIGENOBU

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 1-8) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that if the search and examination of the application can be made without serious burden, the examiner must examine it on the merits even though it included claims to distinct or independent inventions. This is not found persuasive because the examiner has shown serious burden by pointing out the different classification and recognized divergent subject matter of the distinct inventions.

The requirement is still deemed proper and is therefore made FINAL. Claims 9-19 are withdrawn.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, recitations "connecting between" is vague and indefinite. Should

this be merely ---connecting---? Further, to describe the phase windings as "made of a continuous wire" appears to contradict the fact that there are "connecting portions... connecting...the phase windings in the same phase." In claim 2, change "spacing" to -spaced--. Recitation "each disposed" is indefinite. Does this refer to turn portions? Should the possessive pronoun "their" be singular? In claim 3, "mainly formed" is vague. In claim 3, "radially adjacent" straight portions lacks antecedent basis and "different turn portions extending in opposite directions" is indefinite and confusing. What are "different turn portions" and how do they extend in "opposite directions"? In claim 5, how are both the start and finish ends "wound around the stator core?"

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1-3, 5 and 8, as best understood, are rejected under 35 U.S.C. 102(a/e) as being anticipated by Umeda et al. (US 6,211,594). Umeda teaches a stator of a rotary machine comprising: a stator core 22 with plural slots 25 (Fig.2); a poly-phase winding disposed in the

slots comprising plural sub-winding sets 23, each sub-winding set comprising plural phase windings including straight portions 231a/231b disposed in the slots (Figs.3&4) and turn portions 231c/232c (Figs.3&4) connecting the straight portions, the phase winding made of a continuous wire (c.4, lines 42-44) providing an individual coil on the stator core; and connecting portions 23m and 23n (Fig.6) on the outside of the stator core connecting the phase windings of the same phase, i.e., series-connected winding sections 211 and 212 comprising the X-phase winding (Figs.6&7; c.3, lines 64-67).

Regarding claims 2-3, each turn portion, e.g., 231c or 232c connects a pair of straight portions spaced by a predetermined pole pitch, in adjacent positions in a corresponding slot (Figs.3&4). The straight portions are radially-adjacent, as seen in Fig.2.

Regarding claim 5, when the continuous winding wire (c.4, lines 42-44) is employed, the X-phase winding would be "continuous" from a start end (e.g., X1, Fig.7) to a finish end (e.g., X2, Fig.7) around the stator core.

Regarding claim 8, as seen in Fig.2, the circumferential width of the slot 25 is narrower than the tooth (not numbered) between each slot.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3 and 7, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. (US 5,691,590) in view of Umeda et al. (US 6,137,201). Kawai teaches a stator of a rotary machine comprising: a stator core 5a with plural slots (not numbered; Fig.2); a poly-phase winding disposed in the slots comprising plural sub-winding sets 6a/6e, 6b/6f, 6c/6d (Fig.6), each sub-winding set comprising plural phase windings including straight portions (not numbered, Fig.3) disposed in the slots and turn portions (not numbered, Fig.3) connecting the straight portions, teaches a stator of a rotary machine comprising: a stator core 22 with plural slots 25 (Fig.2); a poly-phase winding disposed in the slots comprising plural sub-winding sets 23, each sub-winding set comprising plural phase windings including straight portions 231a/231b disposed in the slots (Figs.3&4) and turn portions 231c/232c (Figs.3&4) connecting the straight portions, and connecting portions (not numbered, Fig.3) on the outside of the stator core connecting the phase windings of the same phase, i.e., the connecting portion connects the portion of coil 6a wound on the two teeth 35a/35b to that portion wound on 35g/35h (c.3, lines 58-61).

Kawai does not teach that the phase winding is made of a continuous wire, per se. However, continuous wires are conventional and would have been obvious substitution for the coil of Kawai. For example, Umeda '201 discloses that continuous wire electrical conductor an AC generator are equivalent to plural conductor segments (c.6, lines 9-11).

Regarding claim 7, the coils in Kawai are circumferentially adjacent one another in each slot. For example, 6a and 6b are adjacent (Fig.2).

Regarding claims 2-3, each turn portion in Kawai connects a pair of straight portions spaced by a predetermined pole pitch, in adjacent positions in a corresponding slot (Fig.3). The straight portions may be radially-adjacent, as seen in Fig.2.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being obvious over Umeda '594 in view of Umeda et al. (US 5,955,810). Umeda '594 does not teach that the conductor wire has a round cross-section.

Umeda '810 teaches an alternator and continuous conductor wire (Fig.2) with round cross-section. Round cross-sectional wire changes the coil end characteristics (c.3, lines 1-10). When the conductor has round cross section, the coil end thickness corresponds to the diameter of the wire. Flat and elliptical cross sections provide other coil end configurations.

It would have been obvious to one having ordinary skill to modify Umeda '594 and provide a round cross-section for the conductor wire pre Umeda '810 since it would have been desirable to change to coil end thickness.

10. The applied references for the above rejections in paragraphs 8 and 9 have common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are

currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(1)(1) and § 706.02(1)(2).

#### *Allowable Subject Matter*

11. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art does not teach a turn portion with a center twisted portion and shifted half portions in addition to crossed half portions on the inner and outer layers.

#### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dickerson teaches a winding technique for a continuous wire stator winding.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or

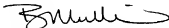


Application/Control Number: 09/842,915  
Art Unit: 2834

Page 8

proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
August 23, 2002